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Valley includes several groups of species that do not come under any of the above headings.

Non-migratory species and those which occur during the winter. 37

Species that barely reach the Mackenzie Valley from the south, being found on the Athabaska and not ranging north to Lake Athabaska. 41

Species not included under the previous headings, being for the most part stragglers or species that are most common on the Arctic islands. 29

Total species known to occur in the Mackenzie Valley 268

The distinctly eastern character of the avifauna of the Mackenzie Valley is shown by the fact that of the one hundred and sixty-one regular breeding migrants, only eighteen are known with certainty to reach the Valley from the west or southwest, while it is known with equal certainty that seventy-one reach it from the southeast or east; and of the remaining seventy-two species, mostly water-birds, probably four-fifths come from the central Mississippi Valley.



LIST OF WATER AND SHORE BIRDS OF THE PUGET SOUND REGION IN THE VICINITY OF SEATTLE.

BY SAMUEL F. RATHBUN.

THIS region is a much favored resort of many of the species of water birds whose habitat is the Pacific coast and this undoubtedly is accounted for by the fact that within its boundaries are embraced the essential desiderata necessary to attract them, viz. protection from the elements, an abundance of food and a most equable temperature throughout the year.

Its geographical location is likewise fortuitous being nearly in the direct line of migration of the countless numbers of birds whose summer home is the North Pacific and of these, thousands use this region as a winter resort, finding here every requirement

necessary for an existence; this fact being strongly impressed upon the observer by the abundance of bird life that will be seen more particularly during the period of the winter months, at which season the number of individual birds exceed that, that may be noted during the balance of the year.

Relative to the equable climatic conditions that prevail it is quite appropriate to quote from "U. S. Department of Agriculture, Weather Bureau Summary of the Climatological data for the United States" "Section 19, Western Washington," which information has been courteously given me by Mr. G. N. Salisbury, Section Director at Seattle.

"The mean temperature of the Puget Sound country ranges from 38 degrees in mid-winter to 62 degrees in mid-summer, while the range near the coast is considerably less, being from 40 degrees in winter to 60 degrees in summer. The average daily march of temperature in the Puget Sound region is from 35 degrees to 45 degrees in mid-winter and from 55 degrees to 75 degrees in mid-summer. The average daily range is noticeably small in winter, showing the equability of temperature," "Frequently in winter the difference between the day and night temperatures is only 5 degrees or less."

It would thus appear that in so far as the mean temperature of the region during winter is concerned, it must prove attractive to many species at that season and when to this is added the other requirements necessary to sustain life, one reason of the region being so favored by the aquatic species is quite obvious.

There may be an additional reason for this abundant bird life during the winter, as it is quite possible that during the autumnal migration, the probable route followed by a majority of the migrants is along the east side of Vancouver Island to a point of intersection with the Straits of Juan de Fuca at the Straits eastern terminus, at which intersectional point a certain amount of "banking" or accumulation of individuals occurs, although no doubt a proportion continue to migrate towards the Pacific Ocean to the westward, or follow the Sound southward. But that this accumulation does occur is quite probable for at and within a fairly defined radius of the intersectional point named, will be found during the winter months the greater abundance of bird life, not necessarily

of species but of individuals; this being noted by the writer on various trips to the section named and appearing particularly to apply to species belonging to the Alcidae, Phalacrocoracidae, to some extent the Anatidae, but not in any great degree to the Laridae, as the representatives of this latter Family, that use this region as a winter resort, seemingly are well distributed.

The following List is intended as supplemental to the original "List of Land Birds of Seattle" published in 'The Auk' (Vol. XIX, No. 2, April, 1902) and an Addendum to which appeared in 'The Auk' (Vol. XXVIII, No. 4, October, 1911).

1. ***Aechmophorus occidentalis***. WESTERN GREBE.— Common spring and fall migrant and observed during the winter months.
2. ***Colymbus holboëlli***. HOLBØLL'S GREBE.— Spring and fall migrant. Sometimes noted during the winter.
3. ***Colymbus nigricollis californicus***. EARED GREBE.— Noted as a migrant and during the winter.
4. ***Podilymbus podiceps***. PIED-BILLED GREBE.— Common summer resident and breeds.
5. ***Gavia immer***. LOON.— Resident and breeds but not so commonly as formerly in this immediate locality. More abundant during the winter.
6. ***Gavia pacifica***. PACIFIC LOON.— Noted as a fall migrant.
7. ***Gavia stellata***. RED-THROATED LOON.— To some extent a winter resident.
8. ***Lunda cirrhata***. TUFTED PUFFIN.— Apparently rare in this immediate locality but not uncommon on the lower sound where it breeds to some extent.
9. ***Synthliboramphus antiquus***. ANCIENT MURRELET.— Rare. A specimen taken August 9, 1913 by D. E. Brown of Seattle.
10. ***Brachyramphus marmoratus***. MARBLED MURRELET.— From November until April a common resident becoming rarer as the season progresses, but is observed intermittently during the balance of the year. D. E. Brown has taken a number of birds in full breeding plumage, one of which collected May 23, 1914 contained an egg an inch in diameter. It would thus appear that this locality may be within the southern portion of the breeding range of the species.
11. ***Cephus columba***. PIGEON GUILLEMOT.— Common resident and breeds.
12. ***Uria troille californica***. CALIFORNICA MURRE.— Winter resident.
13. ***Stercorarius parasiticus***. PARASITIC JAEGER.— Noted on several occasions in September and October flying about the bay in front of the city.
14. ***Rissa tridactyla pollicaris***. PACIFIC KITTIWAKE.— Have seen

this species a number of times during the winter with other Gulls about the tide flats near the city.

15. **Larus glaucescens.** GLAUCOUS-WINGED GULL.—Common from October to latter part of April, but breeds sparingly on some of the islands in the lower sound.

16. **Larus occidentalis.** WESTERN GULL.—Common winter resident.

17. **Larus californicus.** CALIFORNIA GULL.—Spring and fall migrant. On occasions observed during the winter.

18. **Larus brachyrynchus.** SHORT-BILLED GULL.—Common from November until April.

19. **Larus heermanni.** HEERMANN'S GULL.—Not uncommon as a summer visitant.

20. **Larus philadelphia.** BONAPARTE'S GULL.—Spring and fall migrant.

21. **Sterna paradisæa.** ARCTIC TERN.—A rather regular fall migrant. Have observed it a number of times flying about the sound in front of the city.

22. **Phalacrocorax auritus cinctatus.** WHITE-CRESTED CORMORANT.—Not an uncommon winter resident.

23. **Phalacrocorax penicillatus.** BRANDT'S CORMORANT.—Common winter resident.

24. **Pelecanus erythrorhynchos.** WHITE PELICAN.—A rare migrant.

25. **Mergus americanus.** MERGANSER.—A common species from October until April and regularly breeds along the mountain streams flowing from the Cascade Mountains to the sound.

26. **Mergus serrator.** RED-BREASTED MERGANSER.—Common migrant and often observed in winter.

27. **Lophodytes cucullatus.** HOODED MERGANSER.—Rather common during the migrations and have observed it during the winter.

28. **Anas platyrhynchos.** MALLARD.—A common resident but most abundant from October until May. Breeds.

29. **Chaulelasmus streperus.** GADWALL.—Rare migrant.

30. **Mareca penelope.** EUROPEAN WIDGEON.—Can be regarded only as accidental. An adult male was brought me in February, 1912, for identification, that a few days previously had been shot on the lower sound.

31. **Mareca americana.** BALDPATE.—Observed from October until early May, but is a common winter resident.

32. **Nettion carolinense.** GREEN-WINGED TEAL.—Common from October until May. Undoubtedly breeds sparingly as it has been noted during the summer.

33. **Querquedula discors.** BLUE-WINGED TEAL.—Rare.

34. **Spatula clypeata.** SHOVELLER.—A rather common species from October until April and breeds sparingly. Found nesting at Lake Washington, May 15, 1893.

35. ***Dafila acuta***. PINTAIL.— From late fall until April one of our most abundant ducks.

36. ***Aix sponsa***. WOOD DUCK.— Formerly a not uncommon summer resident in this immediate locality, but now seldom noted.

37. ***Marila americana***. REDHEAD.— Occurs as a rare migrant.

38. ***Marila valisineria***. CANVAS-BACK.— Common from November until April but most abundant during winter.

39. ***Marila marila***. SCAUP DUCK.— Same as the preceding, *M. valisineria*, with which it is often found associated.

40. ***Marila affinis***. LESSER SCAUP DUCK.— More or less common during the winter months.

41. ***Marila collaris***. RING-NECKED DUCK.— Regard this species as uncommon, as have noted it but a few times and during the winter months.

42. ***Clangula clangula americana***. GOLDEN-EYE.— Not uncommon as a winter resident.

43. ***Charitonetta albeola***. BUFFLE-HEAD.— Common winter resident, departing in April.

44. ***Harelda hyemalis***. OLD-SQUAW.— Observed from November until April but most common during the winter months.

45. ***Histrionicus histrionicus***. HARLEQUIN DUCK.— A rather rare species during the winter and have noted it until May.

46. ***Oidemia americana***. SCOTER.— A regular but rather uncommon winter resident.

47. ***Oidemia deglandi***. WHITE-WINGED SCOTER.— Common from November until May.

48. ***Oidemia perspicillata***. SURF SCOTER.— Common winter resident.

49. ***Erismatura jamaicensis***. RUDDY DUCK.— Formerly rather common during the migrations but of late years has not been so often noted.

50. ***Chen hypoboreus hypoboreus***. SNOW GOOSE.— On two occasions have seen on the sound near Seattle small flocks of what we regarded as this species. But on the lower sound flocks of white geese are quite regularly observed during the migrations.

51. ***Anser albifrons gambeli***. WHITE-FRONTED GOOSE.— Not uncommon as a spring and fall migrant.

52. ***Branta canadensis occidentalis***. WHITE-CHEEKED GOOSE.— More or less a regular migrant.

53. ***Branta canadensis minima***. CACKLING GOOSE.— A rare migrant.

54. ***Branta nigricans***. BLACK BRANT.— From observations the most common of the *Anserinæ*. A regular spring and fall migrant and common winter resident but seemingly restricted during this period to certain localities on the sound, doubtless on account of its food supply. A very easy bird to decoy. Generally arrives about the first of December and last seen during April.

55. ***Olor columbianus***. WHISTLING SWAN.— A regular but not common migrant.

56. **Ardea herodias fannini**. NORTHWESTERN COAST HERON.—A common resident and breeds.

57. **Grus canadensis**. LITTLE BROWN CRANE.—Although a quite regular migrant, apparently not very common.

58. **Rallus virginianus**. VIRGINIA RAIL.—Common summer resident and breeds.

59. **Porzana carolina**. SORA.—A not uncommon summer resident and breeds.

60. **Fulica americana**. COOT.—Abundant resident. Breeds. Seemingly restricted to the fresh water.

61. **Lobipes lobatus**. NORTHERN PHALAROPE.—A rare spring but regular fall migrant.

62. **Gallinago delicata**. WILSON'S SNIPES.—Abundant spring and fall migrant. Not uncommon during the winter.

63. **Macrorhamphus griseus scolopaceus**. LONG-BILLED DO-WITCHER.—Observed as a not uncommon fall migrant.

64. **Tringa canutus**. KNOT.—A rare spring and fall migrant. Mr. D. E. Brown has several spring records.

65. **Pisobia maculata**. PECTORAL SANDPIPER.—Rare and noted as a fall migrant only.

66. **Pisobia minutilla**. LEAST SANDPIPER.—Common migrant, more particularly during the early fall.

67. **Pelidna alpina sakhalina**. RED-BACKED SANDPIPER.—Not an uncommon spring and fall migrant and sometimes observed in winter.

68. **Ereunetes mauri**. WESTERN SANDPIPER.—A rather common fall migrant.

69. **Calidris leucophæa**. SANDERLING.—A rare spring but common fall migrant and probably winters to a limited extent. Observed March 26, 1910; January 11, 1911; and on December 11, 1913, flocks numbering several hundred birds were noted at Smith's Island, located near the entrance to Puget Sound. On December 18, following we observed a flock of about sixty at this same point and on the nineteenth and twentieth at Dungeness, about seventeen miles southwest, flocks aggregating nearly a thousand birds were watched busily feeding, they allowing an approach to within twenty feet. Among the Sanderling were a few Red-backed Sandpipers.

70. **Totanus melanoleucus**. GREATER YELLOW-LEGS.—Regular spring and fall migrant.

71. **Totanus flavipes**. YELLOW-LEGS.—Not uncommon as a spring migrant.

72. **Helodromas solitarius cinnamomeus**. WESTERN SOLITARY SANDPIPER.—Very rare. Specimen taken May 6, 1914, by D. E. Brown.

73. **Catoptrophorus semipalmatus inornatus**. WESTERN WILLET.—One record. September 6, 1913, by D. E. Brown.

74. **Actitis macularia**. SPOTTED SANDPIPER.—Rather common summer resident and breeds.

75. **Numenius hudsonicus.** HUDSONIAN CURLEW.— Regular spring migrant.

76. **Squatarola squatarola.** BLACK-BELLIED PLOVER.— Regular spring and fall migrant but more common during the latter period.

77. **Oxyechus vociferus.** KILLDEER.— Resident and breeds but most common from March to December.

78. **Ægialitis semipalmata.** SEMIPALMATED PLOVER.— Not an uncommon spring and fall migrant.

79. **Ægialitis nivosa.** SNOWY PLOVER.— A rare migrant. Recorded May 6, 1914 by D. E. Brown.

80. **Arenaria interpres morinella.** RUDDY TURNSTONE.— Rare migrant. Taken May 6, 1914 by D. E. Brown.

81. **Arenaria melanocephala.** BLACK TURNSTONE.— A rare migrant and possibly rare winter resident. Have an adult male taken February 22, 1914, collected by myself.

82. **Hæmatopus bachmani.** BLACK OYSTER-CATCHER.— Formerly not uncommon on the lower sound as a summer resident but of late years has become rare.

THE BIRDS' BATH.

BY HEYWARD SCUDDER.

A VERY little brook winds through a swamp. On the north and east, swamp maples, high and of thick foliage, make a dense shade; on the south and west, low alders, and open spaces filled with Joe-pye-weed and golden-rod let in the sun, and offer perches on which to dry and dress feathers. At intervals the brook widens into shallow pools.

In the course of the day — most abundantly between eleven and three — all the land birds, except the crows and owls, come to bathe in these pools.

A Prairie Warbler flies down on one side of a pool, hesitates at the brink like one fearing the chill of the water, then dashes in and begins splashing. On the other side a Black and White Warbler starts his bath. Then along comes a Robin, hops into the pool and through it till he comes to water deep enough to suit him, saying loudly, "Tut-tut! Tut-tut!" as if in scorn of the warblers, which